

*Skin*  
*Urethane*  
*103*  
*112*

b.) at least one skin layer of a plastic film having a thickness of 10 to 100  $\mu\text{m}$  coated  
on said plastic layer, and

c.) a scratch-resistant layer having a thickness of 1 to 10  $\mu\text{m}$  supported by said plastic  
film.

41. The glass-free motor vehicle window according to Claim 40,, wherein said plastic  
layer a.) comprises a thermoplastic, comprising polycarbonate, poly(methylmethacrylate), an  
ethylene/vinyl acetate copolymer, poly(ethylene terephthalate), polyurethane or a cycloolefin  
copolymer, or an ionomer resin or a thermosetting or thermally crosslinkable material of a  
polyurethane, unsaturated polyester or ethylene/vinyl acetate copolymer, or a combination of  
several thicknesses of the same or several of these plastics, wherein said plastic layer a.) thus  
formed is chemically compatible with the said skin and is capable of giving the assembly the  
required transparency and optical quality.

42. The glass-free motor vehicle window according to Claim 40, wherein said skin  
layer b.) comprises of one or more transparent thermoformable plastic films made of  
polycarbonate, polypropylene, poly(methyl methacrylate), an ethylene/vinyl acetate  
copolymer, poly(ethylene terephthalate), polyurethane, polyvinyl butyral or a cycloolefin  
copolymer.

43. The glass-free motor vehicle window according to Claim 42, wherein interposed  
between plastic films (b.) or deposited on said plastic film b), is at least one functional layer.

44. The glass-free motor vehicle window according to Claim 40, wherein said  
scratch-resistant layer c.) is inorganic, or consists essentially of networks of entangled  
inorganic and organic molecular chains linked to each other by silicon-carbon bonds.

*103*  
45. The glass-free motor vehicle window according to Claim 44, wherein said inorganic scratch-resistant layer c.) consists essentially of polysiloxanes, silica or alumina.

46. The glass-free motor vehicle window according to Claim 40, wherein an external layer of said glass-free motor vehicle window comprises a hydrophobic/oleophobic agent which is incorporated into said scratch-resistant layer c.), grafted onto said scratch-resistant layer c.), or self-supported on a film of poly(vinylfluoride) or poly(vinylidene fluoride) applied directly to said scratch-resistant layer c.).

*B/Cant*  
47. The glass-free motor vehicle window according to Claim 46, wherein said hydrophilic/oleophilic agent is obtained from precursor silanes having a hydrolyzable alkoxy- or halo-functional group at one end and a perfluorinated carbon chain at the other end.

48. The glass-free automobile window according to Claim 40, wherein said skin layer b) includes at least one decorative or masking layer or both covering all or part of the surface of the window.

49. The glass-free automobile window according to Claim 40, including at least one adhesion layer between said layer a.) and layer b.).

*Sub C2*  
50. The glass-free automobile window according to Claim 40, wherein the skin layer b.) includes one or more optically selective layers, having thicknesses of between 2 and 35 mm and separated from each other, as well as from other adjacent layers or films, by dielectric layers.

51. The glass-free automobile window according to Claim 50, wherein said optically selective layers are metal layers.

52. The glass-free automobile window according to Claim 40, wherein said scratch-resistant layer c.) has a surface appearance without any crazing.

*Sub C*

53. A process for preparing the glass-free automobile window according to Claim 40,  
which comprises:

1.) providing constituent elements of said skin layer b.), either flat or in shaped form,  
and optionally consolidating them,

2.) subjecting said skin layer to heat treatment, the skin layer, being supported  
completely or partly by a mould surface, an auxiliary means for shaping at least part of the  
skin to the said mould surface being optionally provided so as to relax stresses in the skin,  
and crosslinking constituent elements thereof; and

*B1  
Contd*

3.) joining the skin to said plastic layer a.) by hot pressing in a form, or by  
thermoplastic injection moulding or reactive injection moulding of the material of the plastic  
layer a.), the skin having been positioned in the bottom of the mould in such a way that a  
scratch-resistant layer c.) is in direct contact with the mould.

54. The process of Claim 53, wherein said constituent elements are supplied by  
screen printing, flexography, ink-jet printing, laser printing, dip coating or spraying.

55. The process of Claim 53, wherein in step 2), said heat treatment is effected at  
100° to 300°C.

*Sub C*

56. A process for preparing the glass-free automobile window according to Claim 40,  
which comprises:

1.) depositing the constituent elements of a scratch-resistant layer on a substantially  
flat plastic film; and

b) shaping said film bearing the elements of the scratch-resistant layer into a shape  
which is the same as or at least similar to the ultimate shape of the end-product, while at the  
same time at least partly crosslinking the scratch-resistant layer.

- B1  
C1*
57. The process of Claim 56, wherein the crosslinking and simultaneous shaping involve a heat treatment at a temperature of from 100 and 300°C.
58. The process of Claim 57, wherein the temperature is from 140 to 240°C.
59. The process of Claim 56, wherein the shaping is carried out by supporting the film coated with the scratch-resistant layer, or the elements intended to constitute this layer, at least on part of its surface, by a mould.
60. The process of Claim 56, wherein the mould carrying the film is a frame open at its center.
61. The process of Claim 56, wherein the film coated with the scratch-resistant layer of elements constituting this layer is combined, before shaping, with one or more other films which themselves fulfill functions or carry means for carrying out these functions other than the scratch-resistance function.
62. A method of incorporating a body element, at least a portion of which is transparent, in a manufactured object, which comprises incorporating the glass-free automobile window according to Claim 40, into an automobile.--

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BASIS FOR THE AMENDMENT

The claims have been amended to more particularly define the invention setting forth thicknesses of all of the recited layers, consistent with a disclosure and the examples in the case (note Ex Parte Jackson, 110 USPQ 561), as well as to improve their language so as to obviate their asserted indefiniteness substantially consistent with the discussion with and